

REMARKS

The Office Action of September 20, 2002 was received and carefully reviewed. By the above amendments, each of claims 1-3 have been amended and a new claim 4, which is more specifically drawn to the embodiment of Figure 3, has been added, so that claims 1-4 are now pending. Reconsideration and withdrawal of the currently pending rejections are requested in view of the above-noted actions and for the reasons advanced in detail below.

With regard to the Examiner's objection to the drawings, under 37 C.F.R. 1.83(a), as failing to illustrate every feature of the claims, the Applicant has filed, on the even date herewith, a Letter Submitting Corrected Formal Drawings in which the reference numeral (26) has been added to the "black box" illustration of the "electronic means" referred to in claims 1-4 for processing output signals from the first and second optoelectronic sensors. The specification, at paragraph [0019], has also been amended to include the reference numeral (26) to identify the "electronic means" for processing output signals from the first and second optoelectronic sensors as a computer.

With regard to the Examiner's refusal to consider the prior art cited in the Information Disclosure Statement (IDS) of July 17, 2001 since a "concise explanation of the relevance, as it is presently understood by the individual...about the content of information, of each patent listed that is not in the English language," it must be noted that each non-English document submitted, i.e. EP 0,145,745, DE 197 33 919 A1, DE 199 23 116 A1, DE 3814466 A1 and WO 85/05443, included an English language abstract. Since MPEP § 609 @ A(3) Concise Explanation of Relevance for Non-English Language Information (page 600-122 copy attached) specifically states:

Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation

the IDS of July 17, 2001 was in complete compliance with regard to the submission of the non-English language documents. Therefore, it is respectfully requested that the Examiner consider the above identified non-English language documents and acknowledge consideration thereof by returning an initialed copy of the attached PTO-1449 form (a new copy thereof being attached hereto). If the Examiner continues to assert that the non-English

language documents submitted with the IDS of July 17, 2001 do not meet the requirements of 37 C.F.R. 1.98, a detailed explanation as to why the attached abstracts for each document do not provide a "concise explanation" is requested.

With regard to the Examiner's rejection of claims 1-3, under 35 U.S.C. 112 (first and second paragraphs), the Applicant has amended each of the claims to be commensurate with the embodiments disclosed in paragraphs [0017] - [0025]. For example, the light source (20) is attached to a first element of two elements while first and second optoelectronic sensors are connected to the second of two elements such that a proportion, e.g., 2 to 10%, of the light impinging on the first sensor is reflected directly to the second sensor, as specifically discussed in the paragraphs [0017]-[0018]. Further, an electronic means (computer 26) receives signals from each of the sensors, processes the signals and determines the position of the light source relative to the incident light beam on the sensors, as clearly described at paragraphs [0008] and [0019] of the specification. This inventive apparatus operates similarly to the apparatus disclosed in the prior art Figures 1 and 2, as well as DE 3814466 A1 (see enclosed English equivalent U.S. Patent 6,337,742); except that, due to the inherent reflectance of the surface of the first optoelectronic sensor, the need for a beam splitter in prior art Figure 1 or a reflector in prior art Figure 2 is eliminated.

Clearly, one of ordinary skill in the prior art, familiar with the teachings of the references above and the provided with the instant description of the invention at paragraphs [0017] - [0025] of the specification, would be able to make and use the invention set forth in claims 1-3 without undue experimentation. For these reasons, the rejections of claims 1-3, under § 112 (first and second paragraphs) are believed to have been overcome and should now be withdrawn.

With regard to the Examiner's rejections of:

Claim 1, under 35 U.S.C. 103(a), as being obvious in view of the teachings of Holzl ('998) combined with the teachings of Jonsson ('820), and

Claim 3, under 35 U.S.C. 103(a), as being obvious in view of the teachings of the Applicant's Admitted Prior Art (Figure 1) in view of the teachings of Jonsson ('820),

each of these rejections is respectfully traversed for the following reasons.

The presently claimed invention of independent claim 1 sets for the following features:

...a first two-dimensionally readable optoelectronic sensor and at least one second two-dimensionally readable optoelectronic sensor connected to a second of the two elements each of which are in a relative alignment with respect to each other such that a light beam incident on a surface of an optoelectronically active layer of the first optoelectronic sensor is reflected by the surface of the optoelectronically active layer proportionally and directly as a light beam onto a surface of the at least one second two-dimensionally readable optoelectronic sensor;

- electronic means for receiving output signals from each of the optoelectronic sensors, processing the signals, and computing the relative position of the light source means relative to the incidences of the at least one light beam on the surfaces of the two-dimensionally readable optoelectronic sensors. (emphasis added)

While independent claim 3 sets forth the following features

- a light source for producing at least one light beam connected to a first of the two elements;
- a first two-dimensionally readable optoelectronic sensor and at least one second two-dimensionally readable optoelectronic sensor;
- a housing, connected to a second of the two elements, in which the first and second two-dimensionally readable optoelectronic sensors are positioned relative to one another such that the light beam incident on first two-dimensionally readable optoelectronic sensor is proportionally reflected as a plurality of light beams in a folded beam path by a surface of an optoelectronically active layer of the first optoelectronic sensor onto the second two-dimensionally readable optoelectronic sensor... (emphasis added)

A review of the Holzl reference reveals that the patentee does not disclose the device structure of claim 1 since there is no first and second optoelectronic sensor mounted on the second of two elements. To the contrary, Holzl teaches that when a reflected light beam embodiment is to be employed, only one optoelectronic sensor is used and it is mounted on the first of two elements (Figure 1, element 7). Further, the patentee teaches that when two optoelectronic sensors are mounted on the second of two elements (Figures 2, 3; elements 9, 10) it is not the reflectance of the first optoelectronic sensor, but the transmittance of the first optoelectronic sensor that is employed to provide signals which will be used to determine the alignment of the two elements. The Examiner asserts that these deficiencies of Holzl are remedied by the teachings of Jonsson which teaches that "a reflective type of opto-electronic detector is very well known in the art" and as such it would have been obvious to utilize such a reflector in the apparatus (Figure 1) of Holzl for "the purpose of more accurately measuring the relative positions of the two shafts."

However, a careful review of the Holzl and Jonsson references provides no such suggestion to one of ordinary skill in the prior art. Instead, Holzl (Figure 1 and 2-3) teaches the use of one or two optoelectronic sensors are equivalent for monitoring the angular alignment of two shafts (neither embodiment provides a more accurate alignment than the other); while Jonsson makes a single mention (in the Prior Art section) of both “reflecting” and “refracting” systems, but never states that the inherent reflectivity of the “photocell” surface is used in the motion detection systems described in the patent. To the contrary, the Examiner appears to have misunderstood the Prior Art section of the Jonsson patent. A careful reading of the patent discloses to one of ordinary skill in the art that the patentee teaches:

...group of optoelectronic detectors comprises, for example, photocell systems of the reflecting [like Holzl (Figure 1), EP '745 (Figure 1) using mirrors] or refracting type [like Arango '743 (Figures 1A-2B) using a light beam splitter] and video cameras.

A conventional example of a reflecting photocell system is disclosed by Snyder (U.S. Patent 3,954,165 – copy attached) which clearly teaches that such a system comprises a photocell-light source (Figures 4, 5, element 126) and a reflecting mirror (Figures 4, 5, element 128) which cooperates to generate a light beam that is reflected back to the photocell for motion detection (see column 7, lines 19-30).

There is absolutely no teaching in Jonsson which would lead one of ordinary skill in the prior art to use the inherently proportionally (2-10%) reflective surface of an optoelectronic reflector alone as the source of alignment light for a second optoelectronic reflector as presently set forth in claim 1 and there certainly no specific teaching or suggestion in Jonsson to employ a reflective surface of the first optoelectronic sensor to provide reflective light to a second optoelectronic sensor for “the purpose of more accurately measuring the relative positions of the two shafts” as alleged by the Examiner.

With regard to claim 3, the Examiner notes that the Admitted Prior Art (Figure 1) teaches the use of a first and second optoelectronic sensor system to determine the alignment of two elements in which a partially reflecting mirror is used to divide the light beam to impinge onto each surface of the first and second optoelectronic sensors. The Examiner further admits that the Admitted Prior Art (Figure 1) does not teach that the proportional reflection of alignment light by the mirror can be achieved by the surface of one of the optoelectronic sensors. For that teaching, the Examiner turns to the Jonsson reference

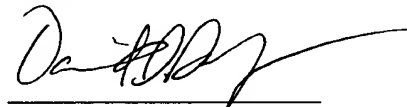
Not
claim
(discussed above. However, the Jonsson reference teaches well known reflective or refractive photocell (optoelectronic sensor) systems, and contains absolutely no teaching of using the inherently proportionally (2-10%) reflective surface of an optoelectronic sensor to provide sensing light to a second optoelectronic sensor for the purpose of alignment of two elements as set forth in claim 3.

Therefore, since the combination of teachings of Holzl or the Admitted Prior Art with the teachings of Jonsson, does not explicitly teach the combination of features presently set forth in claims 1-4 and does not suggest the use of the proportionally (2-10%) reflective surface of an optoelectronic sensor to provide alignment light to a second optoelectronic sensor, the rejection of claims 1 and 3, under § 103(a), as being unpatentable over Holzl or the Admitted Prior Art combined with the teachings of Jonsson has been set forth in error and must be withdrawn.

It is believed that the present application is now in condition for allowance. However, should the Examiner find some issue to remain unresolved, or should any new issue arise, which could be eliminated through discussions with the Applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Petition for Extension of Time (three months) accompanies this response along with a check in payment of the requisite extension of time fee. However, should that petition become separated from this Amendment, then this Amendment should be construed as containing such a petition. Likewise, any overage or shortage in the required payment should be applied to Deposit Account No. 19-2380 (741124-79).

Respectfully submitted,



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Second, 37 CFR 1.98(c) states that when the disclosures of two or more patents or publications listed in an information disclosure statement are substantively cumulative, a copy of one of the patents or publications may be submitted without copies of the other patents or publications provided that a statement is made that these other patents or publications are cumulative. The examiner will then consider only the patent or publication of which a copy is submitted and will so indicate on the list, form PTO-1449, or PTO/SB/08A and 08B, submitted, e.g., by crossing out the listing of the cumulative information. But see *Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.*, 204 F.3d 1368, 1374, 54 USPQ2d 1001, 1005 (Fed. Cir. 2000) (Reference was not cumulative since it contained a more complete combination of the claimed elements than any other reference before the examiner. "A withheld reference may be highly material when it discloses a more complete combination of relevant features, even if those features are before the patent examiner in other references." (citations omitted)).

37 CFR 1.98(a)(3)(ii) states that if a written English language translation of a non-English language document, or portion thereof, is within the possession, custody or control of, or is readily available to any individual designated in 37 CFR 1.56(c), a copy of the translation shall accompany the statement. Translations are not required to be filed unless they have been reduced to writing and are actually translations of what is contained in the non-English language information. If no translation is submitted, the examiner will consider the information in view of the concise explanation and insofar as it is understood on its face, e.g., drawings, chemical formulas, English language abstracts, in the same manner that non-English language information in Office search files is considered by examiners in conducting searches.

A (3) Concise Explanation of Relevance for Non-English Language Information

Each information disclosure statement must further include a concise explanation of the relevance, as it is presently understood by the individual designated in

37 CFR 1.56(c) most knowledgeable about the content of the information listed that is not in the English language. The concise explanation may be either separate from the specification or incorporated therein with the page(s) and lines of the specification where it is incorporated being noted in the IDS.

The requirement for a concise explanation of relevance is limited to information that is not in the English language. The explanation required is limited to the relevance as understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information at the time the information is submitted to the Office. If a complete translation of the information into English is submitted with the non-English language information, no concise explanation is required. An English-language equivalent application may be submitted to fulfill this requirement if it is, in fact, a translation of a foreign language application being listed in an information disclosure statement. There is no requirement for the translation to be verified. Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation. Where the information listed is not in the English language, but was cited in a search report or other action by a foreign patent office in a counterpart foreign application, the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. This may be an explanation of which portion of the reference is particularly relevant, to which claims it applies, or merely an "X", "Y", or "A" indication on a search report. The requirement for a concise explanation of non-English language information would not be satisfied by a statement that a reference was cited in the prosecution of a United States application which is not relied on under 35 U.S.C. 120.

If information cited or submitted in a prior application relied on under 35 U.S.C. 120 was not in English, a concise explanation of the relevance of the information to the new application is not required unless the relevance of the information differs from its relevance as explained in the prior application.